

CERTIFICATION DESIGN LETTER FOR AREA 8, PHASE III-SOUTH

**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO**



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**U.S. DEPARTMENT OF ENERGY
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LIST OF ACRONYMS AND ABBREVIATIONS

A8PIII-S	Area 8, Phase III-South
ASCOC	area-specific constituent of concern
ASL	analytical support level
BTV	benchmark toxicity value
CDL	Certification Design Letter
CG&E	Cincinnati Gas and Electric Company
COC	constituent of concern
COEC	constituent of ecological concern
CRDL	Contract Required Detection Limit
CU	certification unit
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FEMP	Fernald Environmental Management Project
FRL	final remediation level
HPGe	high-purity germanium (detector)
mg/kg	milligrams per kilogram
NaI	sodium iodide
OEPA	Ohio Environmental Protection Agency
OU5	Operable Unit 5
pCi/g	picoCuries per gram
PSP	Project Specific Plan
ROD	Record of Decision
RSS	Radiation Scanning System
RTRAK	Radiation Tracking System
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
UCL	Upper Confidence Limit

EXECUTIVE SUMMARY

This Certification Design Letter (CDL) describes the certification approach for Area 8, Phase III-South (A8PIII-S). The following information is included:

- The boundaries and a description of the area to be certified under the guidance of this CDL
- A presentation of historical data from the area proposed for certification
- A discussion of the area-specific constituent of concern (ASCOC) selection process and list of ASCOCs assigned to A8PIII-S
- A presentation of the certification unit (CU) boundaries and proposed sampling strategy
- The analytical requirements and the statistical methodology that will be employed
- The proposed schedule for the certification activities.

The scope of this CDL is limited to A8PIII-S, the 29.6-acre area located west of Paddys Run on the southwestern corner of the Fernald Environmental Management Project (FEMP) property. Like other parts of Area 8, very few historical soil constituent of concern (COC) data were collected in A8PIII-S. The data that were collected do not show any above-final remediation level (FRL) contamination, and none is expected given the upwind location and lack of production-related land uses. As a result, no remedial actions are planned in A8PIII-S.

The certification design presented in this CDL follows the general approach outlined in Section 3.4 of the Sitewide Excavation Plan (SEP, DOE 1998). Precertification scanning was conducted during September 1999, and results are presented in this CDL. The selection of A8PIII-S ASCOCs was accomplished using COC lists in the Operable Unit 5 (OU5) Record of Decision (ROD, DOE 1996), along with historical data and land-use knowledge. A total of six CUs have been established to cover A8PIII-S. The CU design was based on the precertification data and topography of this area. Certification sampling fieldwork is scheduled to begin in the Summer of 2000 and the Certification Report will be issued September 30, 2000.

1.0 INTRODUCTION

This Certification Design Letter (CDL) describes the certification approach for demonstrating that soil in Area 8 Phase III-South (A8PIII-S) meets the final remediation levels (FRLs) for all area-specific constituents of concern (ASCOCs). The format of this CDL follows guidelines presented in the Sitewide Excavation Plan (SEP, DOE 1998). Accordingly, this CDL consists of six sections:

- 1.0 Introduction - Presentation of the purpose, objectives, and scope of this CDL
- 2.0 Historical and Precertification Data - Presentation and discussion of historical soil data and recently collected precertification real-time data from A8PIII-S
- 3.0 Area-Specific Constituents of Concern - Discussion of selection criteria and ASCOCs for A8PIII-S
- 4.0 Certification Units - Presentation of design, sampling and analytical methodologies
- 5.0 Schedule

References

1.1 OBJECTIVES

The primary objectives of this document are to:

- Define the boundaries of the area to be certified under the guidance of this CDL
- Present historical data collected from within the area proposed for certification
- Define the ASCOC selection process and list the selected A8PIII-S ASCOCs
- Present the certification unit (CU) boundaries and proposed certification sampling strategy
- Summarize the analytical requirements and the statistical methodology that will be employed
- Present the proposed schedule for the certification activities.

1.2 SCOPE AND AREA DESCRIPTION

The scope of this CDL is limited to A8PIII-S, as identified on Figure 1. A8PIII-S includes the southwestern corner of the Fernald Environmental Management Project (FEMP) site west of Paddys Run and south of Area 8, Phase I. The A8PIII-S boundary was modified from that shown in the SEP

to exclude the small section of land owned by the Cincinnati Gas and Electric Company (CG&E). Details of the CG&E property are presented in the A8PIII-S Precertification Project Specific Plan (PSP, DOE 1999). Since this is not DOE property, it will be treated as off-property (Area 9) soil for purposes of certification, and therefore will not be included in this certification effort.

With the revised boundary, A8PIII-S is a 29.6-acre parcel of land. It consists of flat, open fields separated by a steep, wooded ridge. It is unlikely that A8PIII-S has been impacted by former FEMP production activities for several reasons. First, A8PIII-S is located southwest (upwind) of the Former Production Area, and therefore should have minimal impacts from airborne contamination. Secondly, A8PIII-S does not receive drainage from any other part of the FEMP site. Finally, no known disposal or plant related activities were associated with this region of the FEMP except for some surface excavation during plant construction. A 1953 aerial photograph shows that some soil was removed during plant construction from an approximately 1-acre area just south of where the 1998 bioengineering project took place. Also, though unrelated to production operations, the farmer who grazes this property did some grading work on the ridge to make the slope gradual enough to access the lower field with his tractor.

Based on existing soil analytical data and the unlikelihood that A8PIII-S was impacted above soil FRLs by production operations, no soil excavation is anticipated to remove contaminated soil. Consequently, the remediation approach will follow Excavation Approach E, as discussed in Section 4.5 of the SEP, and no Integrated Remedial Design Package will need to be submitted. Certification work began with the traditional precertification scan in September 1999.

2.0 HISTORICAL AND PRECERTIFICATION SOIL CONTAMINATION DATA

Prior to conducting certification sampling, all soil demonstrated to contain contamination above the associated FRLs or other applicable action levels must be evaluated for remedial actions, in accordance with the SEP. The Operable Unit 5 (OU5) Record of Decision (ROD, DOE 1996) also commits the FEMP to remove man-made objects, including debris, building foundations, and drainage systems, before a remediation area can be certified; however, there are no such objects within A8PIII-S.

2.1 HISTORICAL DATA

Before initiating the certification process, all historical soil data pertinent to A8PIII-S were pulled from the Sitewide Environmental Database (SED). These data are presented in this CDL as Table 1. The review of these data primarily focused on results compared to the FRL. As shown in this table, only two above-FRL results were identified - both for N-nitrosodipropylamine, and both were cases where the laboratory minimum contract required detection limit (CRDL) exceeded the FRL.

N-nitrosodipropylamine is associated with former FEMP production operations, and based on location and former land uses, there is no reason to believe that this constituent of concern (COC) should be found in this part of the FEMP site.

Existing data collected from within A8PIII-S were also reviewed against the benchmark toxicity values (BTVs) of each constituent of ecological concern (COEC). A8PIII-S was not identified as an area for further BTV evaluation in Appendix C of the SEP. Historical data are consistent with this, as no above-BTV COECs were detected in the historical data set.

2.2 PRECERTIFICATION REAL-TIME SCAN DATA

Precertification real-time scanning data were collected within A8PIII-S prior to issuance of this CDL. A comprehensive scan of A8PIII-S was conducted using the Radiation Tracking System (RTRAK), the Radiation Scanning System (RSS) and the high-purity germanium (HPGe) detectors. These precertification data are used to: 1) verify that no localized contamination (i.e., "hot spots") are present; 2) provide assurance that an area will likely pass certification; and 3) bias CU boundaries so pockets of elevated activity are isolated.

During Phase 1 of precertification, the mobile sodium iodide (NaI) detectors (RTRAK and RSS) were used to scan as much of this land as possible. The HPGe was also used to scan the steep ridges and vegetated areas where the mobile instruments could not access. However, several of the ridges in this area were too steep to safely scan with either detector, and therefore were omitted.

Data collected during this scan were displayed for total gamma activity (as counts per second), total uranium, radium-226, and thorium-232. The total activity results showed several pockets of higher total activity, primarily in the fields on top of the ridge along Paddys Run Road. Though overall, these results are comparable to what was found in other parts of Area 8 where contamination was not a problem. With regard to the radium-226, thorium-232 and total uranium results, no mobile NaI results exceeded the 3xFRL hot spot level, and no HPGe Phase 1 reading exceeded the 1xFRL trigger level for additional readings. The results of the surface scan are presented on data maps in Figures 4 (total activity), 5 (total uranium), 6 (radium-226), and 7 (thorium-232) of this CDL.

During Phase 2 of precertification, HPGe readings were obtained at the location of highest gamma activity within each identified CU as added insurance that concentrations were not above the FRL. The results again demonstrate total uranium, thorium-232, and radium-226 to be below their respective FRLs. The locations of these Phase 2 HPGe readings and their results as shown on Figure 8.

3.0 AREA-SPECIFIC CONSTITUENTS OF CONCERN

In the OU5 ROD, there are 80 soil COCs with established FRLs. These COCs were retained for further investigation based on a screening process that considered the presence of the constituent in site soil and the potential risk to a receptor exposed to soil containing this contaminant. In spite of the conservative nature of this COC retention process, many of the COCs with established FRLs have a limited distribution in site soil or the presence of the COC is based on high CRDLs. When FRLs were established for these COCs in the OU5 ROD, the FRLs were initially screened against site data presented on spatial maps to establish a picture of potential remediation areas.

By reviewing existing Remedial Investigation/Feasibility Study data presented on spatial distribution maps, it was possible to reduce the sitewide list of soil COCs from 80 listed in the OU5 ROD to 30. This reduction was possible because the majority of the COCs with FRLs listed in the OU5 ROD have no detections above their corresponding FRL, thus eliminating them from further consideration. The 30 remaining sitewide COCs account for over 99 percent of the combined risk to a site receptor model, and they comprise the list from which all of the remediation ASCOCs are drawn. When planning certification for a remediation area, additional selection criteria are used to derive a subset of these 30 COCs. This subset of COCs is passed along to the certification process.

3.1 SELECTION CRITERIA

All of the sitewide primary COCs (total uranium, radium-226, radium-228, thorium-232, and thorium-228) will be retained as ASCOCs for certification in all areas of the site. The selection process for retaining secondary ASCOCs for a remediation area is driven by applying a set of decision criteria. A soil contaminant will be retained as an A8PIII-S ASCOC if the following apply:

- It is listed as a soil COC in the OU5 ROD, and it is listed as an ASCOC in Table 2-7 of the SEP for the Remediation Area of interest
- Analytical results show that a contaminant is present above its FRL, and the above-FRL concentrations are not attributable to false positives or elevated CRDLs
- It can be traced to site use, either through process knowledge or known release of the constituent to the environment
- Physical characteristics of the contaminant, such as degradation rate and volatility, indicate it is likely to persist in the soil between time of release and remediation.

3.2 ASCOC SELECTION PROCESS FOR A8PIII-S

Total uranium, radium-226, radium-228, thorium-228 and thorium-232 are sitewide primary COCs, and will be retained as ASCOCs for this reason. As discussed in Section 2.1, historical data show that no other ASCOCs are present above the FRL in A8PIII-S, and meet the above criteria for being retained. Based on this factor and the inability to identify any mechanism for secondary COC contamination of this part of the site, only the sitewide primary COCs will be retained as the A8PIII-S ASCOCs. The selected A8PIII-S ASCOCs are listed on Table 2 along with their applicable FRLs.

4.0 CERTIFICATION APPROACH

4.1 CERTIFICATION DESIGN

The certification design for A8PIII-S follows the general approach outlined in Section 3.4 of the SEP. Because A8PIII-S is considered to be a "nonimpacted area," Approach E from the SEP will be used as a basis for certification design, as described in Section 4.5 of the SEP. As a result, Group 2 CUs, which can be as large as 250,000 square feet, have been located within A8PIII-S.

Historical land uses, soil COC data, precertification data and topography are used to establish CU boundaries. Because there were no significant production-related land uses and very few soil COC data were collected in A8PIII-S, the precertification data and the topography of A8PIII-S were the main drivers for CU delineation. As shown in Figure 9, six CUs have been established in A8PIII-S based on these factors, as follows:

- **CU A8PIIIS-01** has been established in the southwest portion of A8PIII-S to cover an area of slightly higher activity and the field on top of the ridge
- **CU A8PIIIS-02** has been established in the southeast portion of A8PIII-S to cover an area of lower activity along Paddys Run
- **CU A8PIIIS-03** has been established in the center of A8PIII-S, and contains the small area where excavation took place during plant construction and an area of slightly higher activity
- **CU A8PIIIS-04** has been established in the northwest portion of A8PIII-S to cover an area of slightly higher activity and the field on top of the ridge
- **CU A8PIIIS-05** has been established in the east central portion of A8PIII-S to cover an area of lower activity in the field below the ridge
- **CU A8PIIIS-06** has been established along the northeast corner of A8PIII-S, and contains a pocket of slightly higher activity.

The selection of certification sampling locations was conducted according to Section 3.4.2 of the SEP. Each CU was first divided into 16 approximately equal sub-CUs. Sample locations were then generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-CU, then testing those locations against the minimum distance criterion for the CU. If this was the case, an alternative random location was selected for that sub-CU, and all the locations were re-tested.

This process continued until all 16 random locations met the minimum distance criterion. All sub-CUs and planned A8PIII-S certification sampling locations are shown in Figure 10. Prior to submittal of this CDL, all certification locations were field-verified to make sure no surface obstacles would prevent collection at the planned location. Locations may be moved if a subsurface obstacle such as a rock or tree root prevent collection, as long as requirements discussed in the A8PIII-S Certification PSP (DOE 2000) are followed. Twelve of the 16 certification locations per CU will be sampled, and the 12 samples per CU will be analyzed for all A8PIII-S ASCOCs. The other four locations per CU will remain identified in the field, and will be collected and analyzed if necessary based on other certification sample results.

4.2 ANALYTICAL METHODOLOGY AND STATISTICAL ANALYSIS

Laboratory analysis of certification samples will be conducted using an approved analytical method, as discussed in Appendix H of the SEP. Analyses will be conducted to Analytical Support Level (ASL) E, where all requirements are the same as ASL D except the minimum detection level for the selected analytical method must be at least 10 percent of FRL. Each laboratory will prepare an ASL D data package for all analyses. A minimum 10 percent of the results from each laboratory will be validated to ASL D, with the remaining 90 percent of the data validated to ASL B. Because results are batched by CU, all results from one of these six CUs will be validated to ASL D. Samples rejected during this validation will be re-analyzed, or an archive sample may be substituted if there is insufficient material available from the initial sample. Once data are validated as required, results will be entered into the SED and a statistical analysis will be performed to evaluate the pass/fail criteria for each CU. The statistical approach is discussed in Section 3.4.3 and Appendix G of the SEP.

Two criteria must be met for the CU to pass certification. If the data distribution is normal or lognormal, the first criterion compares the 95 percent Upper Confidence Limit (UCL) on the mean of each primary COC to its FRL, or the 90 percent UCL on the mean of each secondary ASCOC. On an individual CU basis, any ASCOC with the 95 percent UCL (for primary ASCOCs) or 90 percent UCL (for secondary ASCOCs, though not applicable to A8PIII-S) above the FRL results in that CU failing certification. If the data distribution is not normal or lognormal, the appropriate nonparametric approach discussed in Appendix G of the SEP will be used to evaluate the second criterion. The second criterion is the hot spot criterion, which states that all ASCOC results must not exceed $2 \times \text{FRL}$.

When the given UCL on the mean for each COC is less than its FRL and the hot-spot criterion is met, the CU will be considered certified.

In the event that a CU fails certification, the following scenarios will be evaluated: 1) high variability in the data set, 2) localized contamination, and 3) widespread contamination. Details on the evaluation and responses to these possible outcomes are provided in Section 3.4.5 of the SEP. When all CUs within the scope of this CDL have passed certification, a Certification Report will be issued. The Certification Report will be submitted to the regulatory agencies to receive acknowledgment that the pertinent operable unit remedial actions were completed and the individual CUs are certified to be released for interim or final land use. Section 7.4 of the SEP provides additional details and describes the required content of the Certification Report.

5.0 SCHEDULE

The following draft schedule shows key activities for the completion of the work within the scope of this CDL.

<u>ACTIVITY</u>	<u>TARGET DATE</u>
Submittal of Certification Design Letter	March 24, 2000
Start of Certification Sampling	May 23, 2000
Complete Field Work	June 30, 2000
Complete Analytical Work	August 11, 2000
Complete Data Validation and Statistical Analysis	September 8, 2000
Submit Certification Report	September 30, 2000 ^a

^a Only the date for submittal of the Certification Report is a commitment to the U.S. Environmental Protection Agency (EPA) and Ohio Environmental Protection Agency (OEPA). Other dates are internal target completion dates.

REFERENCES

U.S. Department of Energy, 1994, "Operable Unit 5 Remedial Investigation," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1996, "Record of Decision for Remedial Action at Operable Unit 5," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1998, "Sitewide Excavation Plan," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1999, "Project Specific Plan for Area 8, Phase III-South Precertification Real-Time Scan" Revision 0, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2000, "Project Specific Plan for Area 8, Phase III-South Certification Sampling" Revision 0, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	FRL	Units	Qual.	QA Type	>FRL?
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,1,2-Trichloroethane	11	4300	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,1,2-Trichloroethane	11	4300	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	1,1,2-Trichloroethane	5	4300	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,1-Dichloroethene	11	410	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,1-Dichloroethene	11	410	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	1,1-Dichloroethene	5	410	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,2-Dichloroethane	11	160	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	1,2-Dichloroethane	11	160	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	1,2-Dichloroethane	5	160	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	3,3'-Dichlorobenzidine	370	550	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	3,3'-Dichlorobenzidine	370	550	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	4-Methyl-2-pentanone	10	2500000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	4-Nitroaniline	930	150000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	4-Nitroaniline	930	150000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Acetone	11	43000000	ug/kg	UJ	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Acetone	11	43000000	ug/kg	UJ	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Acetone	2	43000000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	alpha-Chlordane	3.8	190	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	alpha-Chlordane	3.8	190	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Antimony	3.1	96	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Antimony	3.1	96	mg/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Aroclor-1254	73	130	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Aroclor-1254	73	130	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Aroclor-1260	73	130	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Aroclor-1260	73	130	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Arsenic	4.4	12	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Arsenic	4.2	12	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Barium	32.1	68000	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Barium	30.2	68000	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzene	11	850000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzene	11	850000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Benzene	5	850000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(a)anthracene	370	20000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(a)anthracene	370	20000	ug/kg	U	DUPLICATE	NO

TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	- FRL	Units	Qual.	QA Type	>FRL?
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(a)pyrene	370	2000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(a)pyrene	370	2000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(b)fluoranthene	370	20000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(b)fluoranthene	370	20000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(k)fluoranthene	370	200000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Benzo(k)fluoranthene	370	200000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Beryllium	1.1	1.5	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Beryllium	1.1	1.5	mg/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	bis(2-Chloroisopropyl) ether	370	420000	ug/kg	UJ	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	bis(2-Chloroisopropyl) ether	370	420000	ug/kg	UJ	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	bis(2-Ethylhexyl)phthalate	370	820000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	bis(2-Ethylhexyl)phthalate	370	820000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromodichloromethane	11	4000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromodichloromethane	11	4000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Bromodichloromethane	5	4000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromoform	11	31000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromoform	11	31000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Bromoform	5	31000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromomethane	11	8200000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Bromomethane	11	8200000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Bromomethane	10	8200000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cadmium	1.1	82	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cadmium	1.1	82	mg/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Carbon disulfide	11	5000000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Carbon disulfide	11	5000000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Carbon disulfide	5	5000000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Carbon Tetrachloride	11	2100	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Carbon Tetrachloride	11	2100	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Carbon Tetrachloride	5	2100	ug/kg	U	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cesium-137	0.4	1.4	pCi/g	J	DUPLICATE	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cesium-137	0.3	1.4	pCi/g	J	NORMAL	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Cesium-137	0.2	1.4	pCi/g	UJ	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Cesium-137	0.2	1.4	pCi/g	UJ	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chlorobenzene	11	340000	ug/kg	U	NORMAL	NO

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TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	FRL	Units	Qual.	QA Type	>FRL?
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chlorobenzene	11	340000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Chlorobenzene	5	340000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chloroform	11	45000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chloroform	11	45000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Chloroform	5	45000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chromium	5.9	300	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chromium	4.3	300	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chrysene	370	2000000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Chrysene	370	2000000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cobalt	5.6	740	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cobalt	4.6	740	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Copper	10.5	220000	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Copper	10.3	220000	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cyanide	0.28	120000	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Cyanide	0.28	120000	mg/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Dibenzo(a,h)anthracene	370	2000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Dibenzo(a,h)anthracene	370	2000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Dieldrin	7.3	15	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Dieldrin	7.3	15	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Di-n-octyl phthalate	370	1100000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Di-n-octyl phthalate	370	1100000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Ethylbenzene	11	5100000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Ethylbenzene	11	5100000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Ethylbenzene	5	5100000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	gamma-Chlordane	3.8	190	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	gamma-Chlordane	3.8	190	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Indeno(1,2,3-cd)pyrene	370	20000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Indeno(1,2,3-cd)pyrene	370	20000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Manganese	472	4600	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Manganese	442	4600	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Mercury	0.06	7.5	mg/kg	UJ	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Mercury	0.06	7.5	mg/kg	UJ	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Methylene chloride	11	37000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Methylene chloride	11	37000	ug/kg	U	DUPLICATE	NO

TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	FRL	Units	Qual.	QA Type	>FRL?
8100	3044	19880302	22.5	24	477802.9	1346693.8	Methylene chloride	3	37000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Molybdenum	3.8	2900	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Molybdenum	3.8	2900	mg/kg	U	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Neptunium-237	0.6	3.2	pCi/g	U	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Neptunium-237	0.6	3.2	pCi/g	UJ	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Neptunium-237	0.6	3.2	pCi/g	U	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Neptunium-237	0.6	3.2	pCi/g	UJ	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Nickel	9.7	15000	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Nickel	7.8	15000	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	N-Nitroso-di-n-propylamine	370	200	ug/kg	U	NORMAL	YES
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	N-Nitroso-di-n-propylamine	370	200	ug/kg	U	DUPLICATE	YES
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	N-Nitrosodiphenylamine	370	51000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	N-Nitrosodiphenylamine	370	51000	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Pentachlorophenol	930	2300	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Pentachlorophenol	930	2300	ug/kg	U	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Plutonium-238	0.6	78	pCi/g	U	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Plutonium-238	0.6	78	pCi/g	U	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Plutonium-238	0.6	78	pCi/g	U	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Plutonium-238	0.6	78	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Plutonium-238	0.1	78	pCi/g	J	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Plutonium-239/240	0.6	77	pCi/g	U	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Plutonium-239/240	0.6	77	pCi/g	U	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Plutonium-239/240	0.6	77	pCi/g	U	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Plutonium-239/240	0.6	77	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Plutonium-239/240	0	77	pCi/g	UJ	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	p-Methylphenol	370	250000	ug/kg	UJ	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	p-Methylphenol	370	250000	ug/kg	UJ	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Radium-226	1.2	1.7	pCi/g	J	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Radium-226	0.5	1.7	pCi/g	UJ	NORMAL	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Radium-226	0.4	1.7	pCi/g	J	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Radium-226	0.3	1.7	pCi/g	J	DUPLICATE	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Radium-228	1	1.8	pCi/g	UJ	NORMAL	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Radium-228	0.9	1.8	pCi/g	J	NORMAL	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Radium-228	0.6	1.8	pCi/g	-	NORMAL	NO

TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	FRL	Units	Qual.	QA Type	>FRL?
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Radium-228	0.5	1.8	pCi/g	U	DUPLICATE	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Silver	0.45	29000	mg/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Silver	0.44	29000	mg/kg	U	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Strontium-90	1.6	14	pCi/g	J	NORMAL	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Strontium-90	0.8	14	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Strontium-90	0.6	14	pCi/g	UJ	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Strontium-90	0.5	14	pCi/g	U	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Strontium-90	0.5	14	pCi/g	UJ	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Strontium-90	0.5	14	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Technetium-99	1.3	30	pCi/g	J	DUPLICATE	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Technetium-99	1	30	pCi/g	U	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Technetium-99	1	30	pCi/g	U	NORMAL	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Technetium-99	1	30	pCi/g	UJ	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Technetium-99	1	30	pCi/g	UNV	NORMAL	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Tetrachloroethene	45	3600	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Tetrachloroethene	11	3600	ug/kg	U	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Tetrachloroethene	2	3600	ug/kg	J	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thallium	0.22	91	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thallium	0.22	91	mg/kg	U	DUPLICATE	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Thorium-228	1.7	1.7	pCi/g	-	NORMAL	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Thorium-228	1	1.7	pCi/g	-	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Thorium-228	0.6	1.7	pCi/g	UJ	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Thorium-228	0.6	1.7	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-228	0.5	1.7	pCi/g	J	DUPLICATE	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-228	0.4	1.7	pCi/g	J	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Thorium-230	1.9	280	pCi/g	-	NORMAL	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Thorium-230	1.7	280	pCi/g	J	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Thorium-230	1.5	280	pCi/g	J	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Thorium-230	1.5	280	pCi/g	J	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-230	0.9	280	pCi/g	J	DUPLICATE	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-230	0.8	280	pCi/g	J	NORMAL	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Thorium-232	1	1.5	pCi/g	-	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Thorium-232	1	1.5	pCi/g	-	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Thorium-232	0.6	1.5	pCi/g	UJ	NORMAL	NO

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TABLE 1
HISTORICAL SOIL COC DATA COLLECTED IN AREA 8, PHASE III-SOUTH

Sample ID	Location	Date	Top	Bottom	Northing	Easting	Parameter	Result	FRL	Units	Qual.	QA Type	>FRL?
8249	3044	19880302	65	66.5	477802.9	1346693.8	Thorium-232	0.6	1.5	pCi/g	UJ	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-232	0.6	1.5	pCi/g	J	DUPLICATE	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Thorium-232	0.5	1.5	pCi/g	J	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Toluene	11	100000000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Toluene	11	100000000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Toluene	5	100000000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Trichloroethene	11	25000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Trichloroethene	11	25000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Trichloroethene	5	25000	ug/kg	U	NORMAL	NO
5109	ZONE 3-4	19871111	0	0.1667	477029.3	1347531.0	Uranium, Total	5.0975	50	mg/kg	J	NORMAL	NO
121084	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Uranium, Total	3.7	50	ug/g	-	DUPLICATE	NO
8086	3044	19880301	4.5	6	477802.9	1346693.8	Uranium, Total	3.2984	50	mg/kg	-	NORMAL	NO
8104	3044	19880302	40	41.5	477802.9	1346693.8	Uranium, Total	1.7991	50	mg/kg	U	NORMAL	NO
8249	3044	19880302	65	66.5	477802.9	1346693.8	Uranium, Total	1.7991	50	mg/kg	U	NORMAL	NO
121081	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Uranium, Total	0.8996	50	mg/kg	J	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Vanadium	13.3	5100	mg/kg	-	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Vanadium	12.9	5100	mg/kg	-	DUPLICATE	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Vinyl chloride	11	130	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Vinyl chloride	11	130	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Vinyl chloride	10	130	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Xylenes, Total	11	920000000	ug/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Xylenes, Total	11	920000000	ug/kg	U	DUPLICATE	NO
8100	3044	19880302	22.5	24	477802.9	1346693.8	Xylenes, Total	5	920000000	ug/kg	U	NORMAL	NO
121080	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Zinc	39.9	120000	mg/kg	U	NORMAL	NO
121083	500318/SS-37	19930707	0	0.5	477737.8	1347288.2	Zinc	32.6	120000	mg/kg	U	DUPLICATE	NO

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TABLE 2
ASCOC LIST FOR ALL A8PIII-S CERTIFICATION UNITS

ASCOC	FRL	Reason Retained
Total Uranium	82 mg/kg	Retained as a primary ASCOC sitewide
Radium-226	1.7 pCi/g	Retained as a primary ASCOC sitewide
Radium-228	1.8 pCi/g	Retained as a primary ASCOC sitewide
Thorium-228	1.7 pCi/g	Retained as a primary ASCOC sitewide
Thorium-232	1.5 pCi/g	Retained as a primary ASCOC sitewide

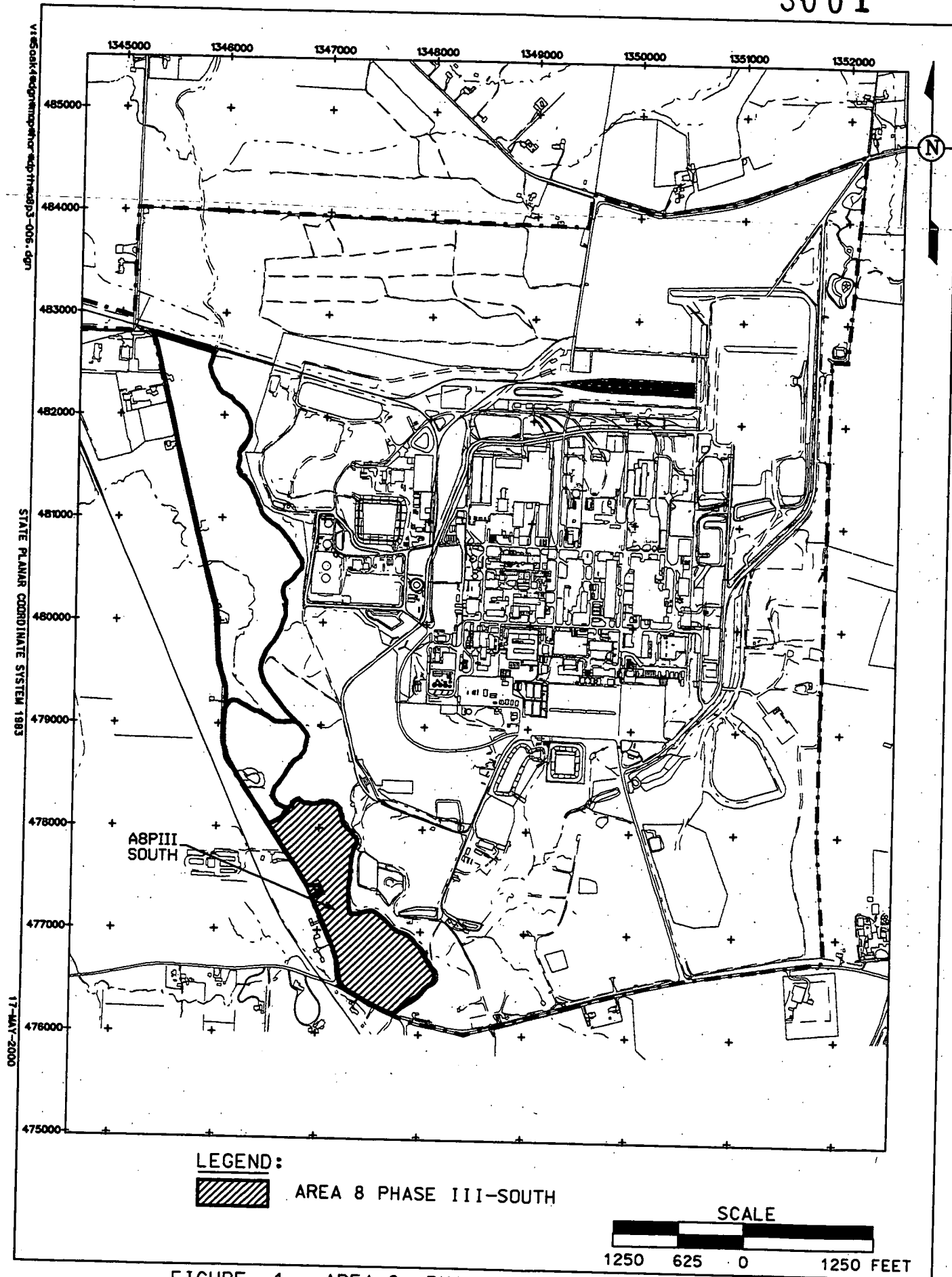


FIGURE 1. AREA 8, PHASE III-SOUTH LOCATION MAP 000023

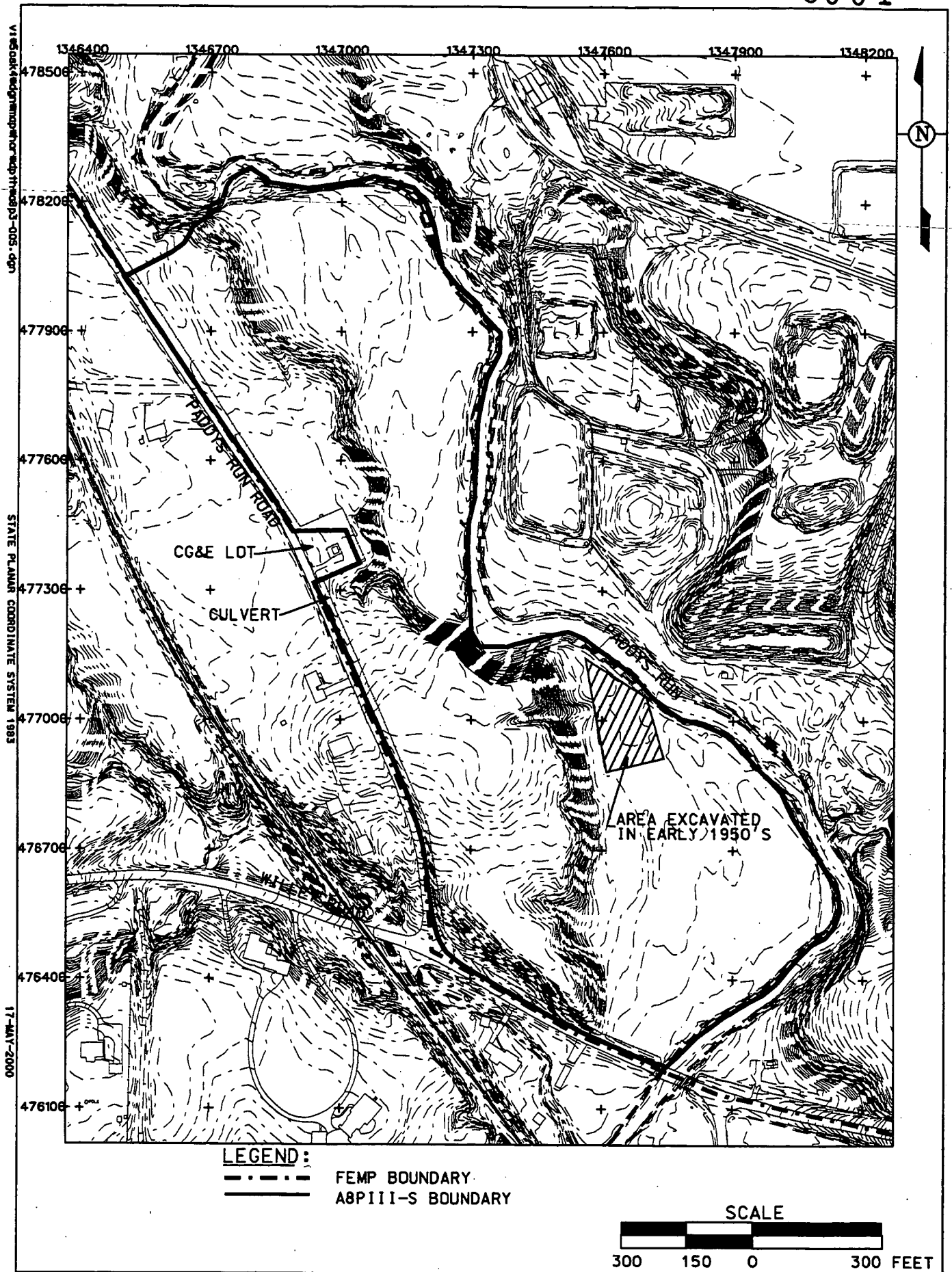


FIGURE 2. A8P111-SOUTH TOPOGRAPHY AND SURFACE FEATURES

000024

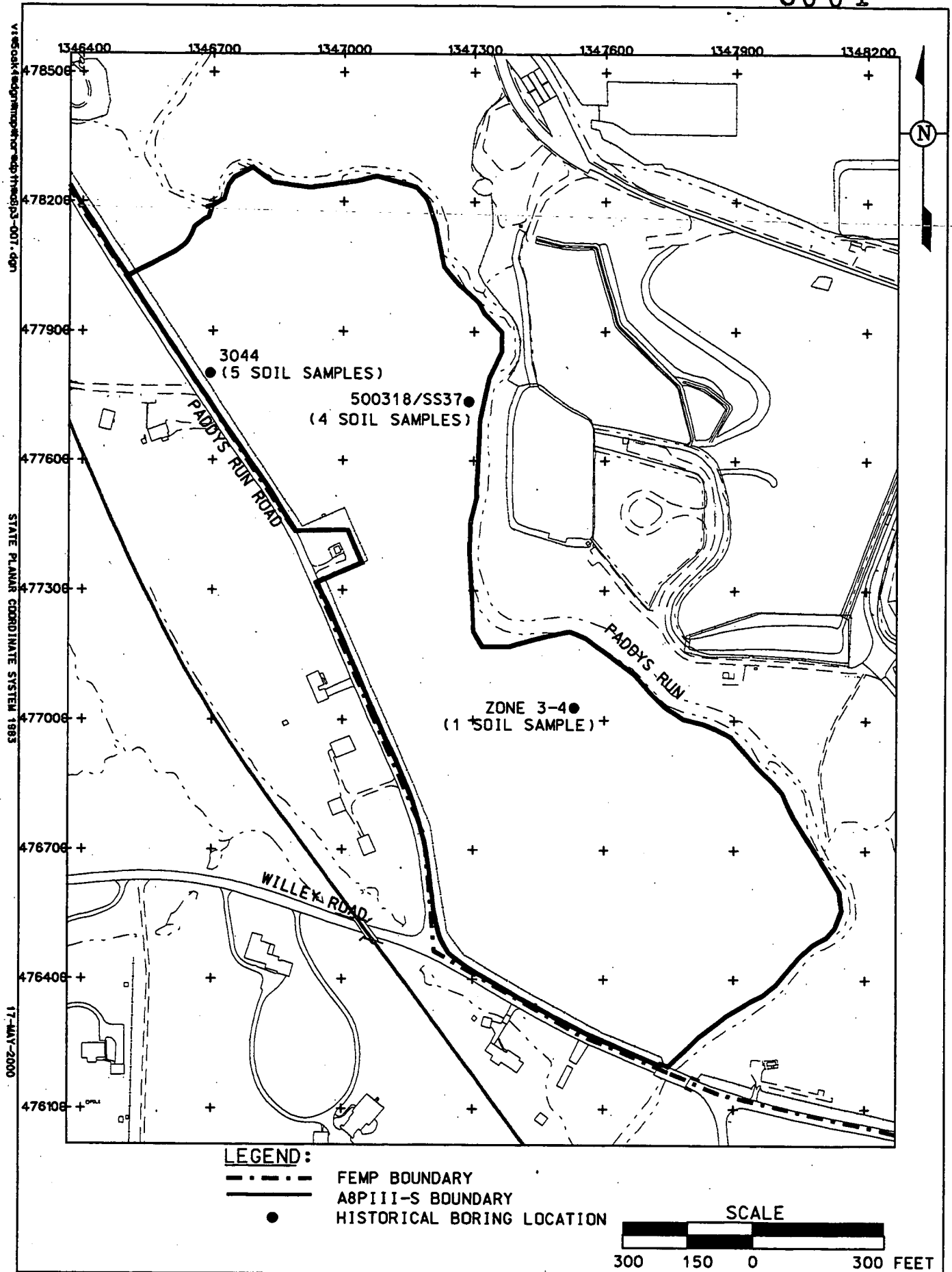


FIGURE 3. HISTORICAL SAMPLES COLLECTED FORM WITHIN A8PIII-SOUTH

000025

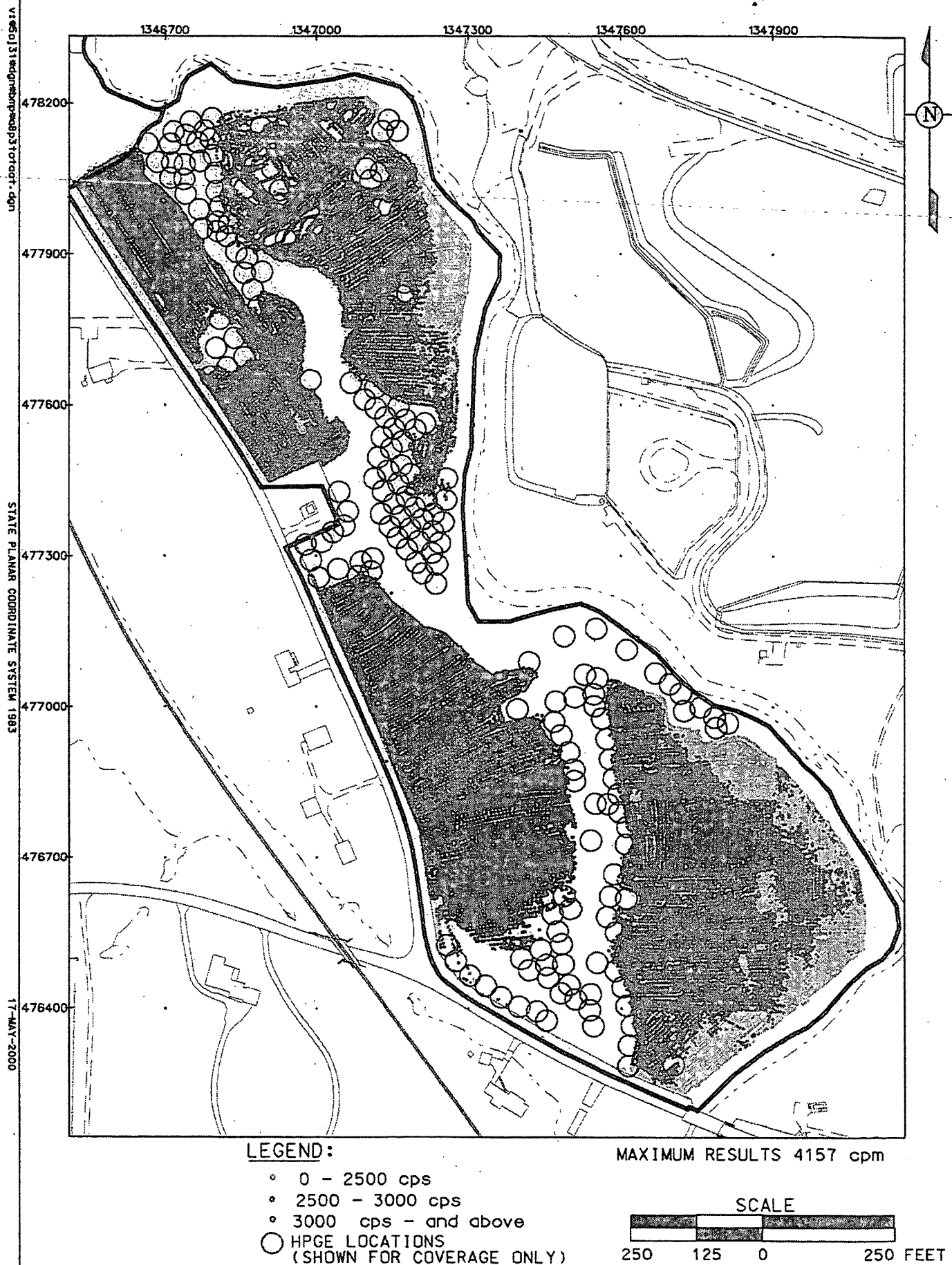


FIGURE 4. A8PIII SOUTH PRECERTIFICATION RESULTS - TOTAL ACTIVITY

V:\60131\edg\map\p3\p310ru.dgn

STATE PLANAR COORDINATE SYSTEM 1983

17-MAY-2000

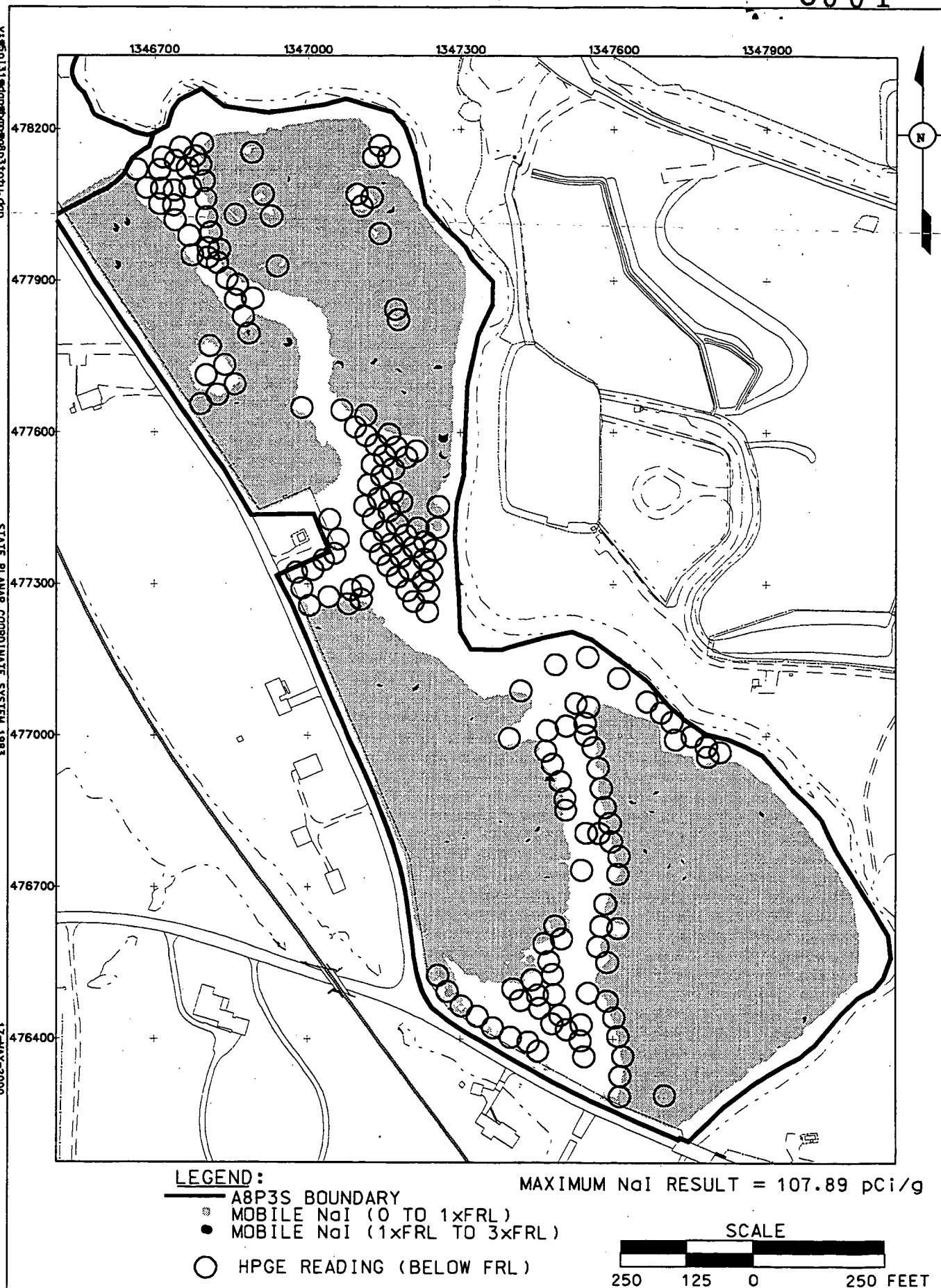


FIGURE 5. A8 PIII-SOUTH PRECERTIFICATION RESULTS - TOTAL URANIUM

000027

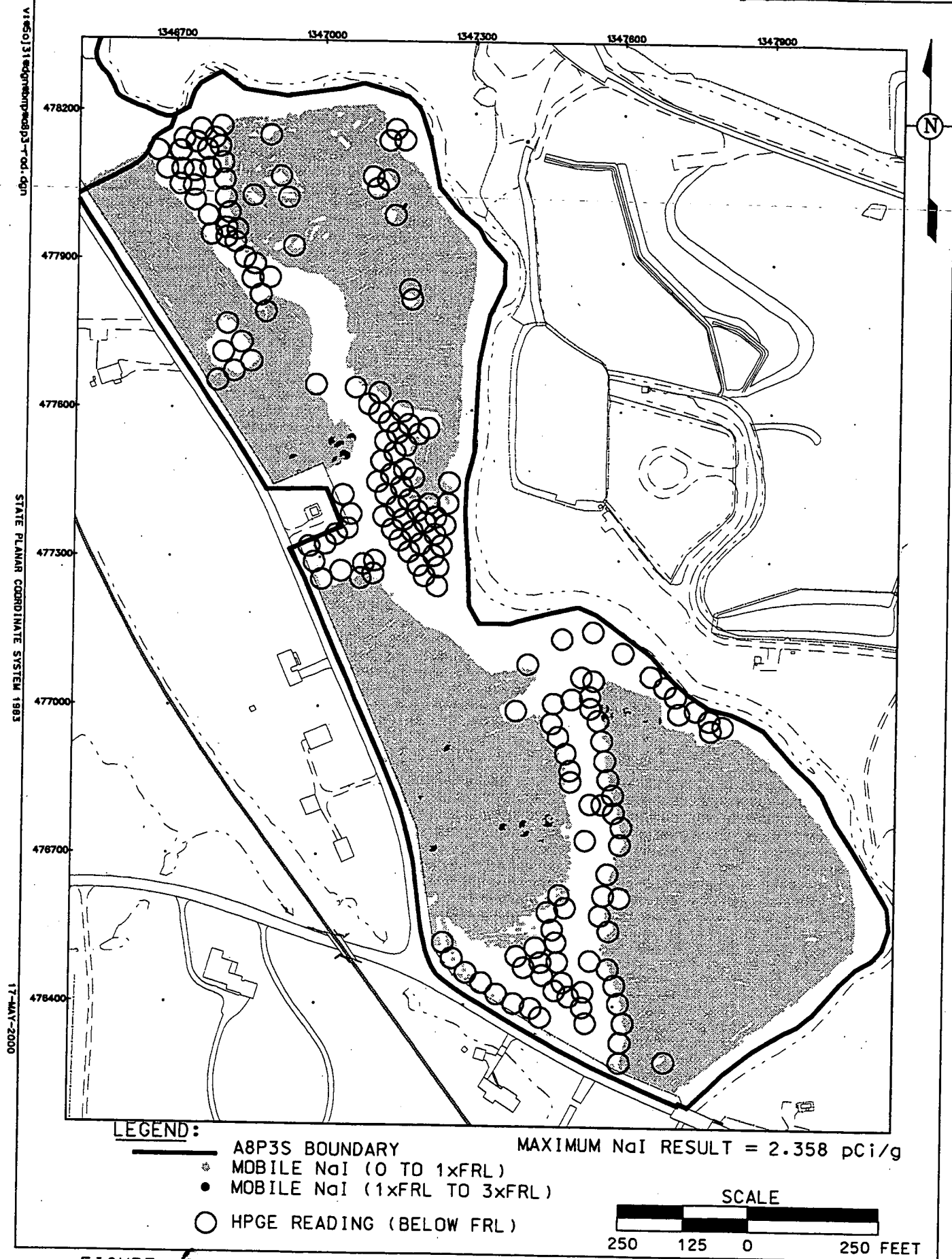


FIGURE 6. A8P3S-SOUTH PRECERTIFICATION RESULTS - RADIUM-226

000028

V:\60131\edgmont\p03-rh.dgn

STATE PLANNING COORDINATE SYSTEM 1927

18-MAY-2000

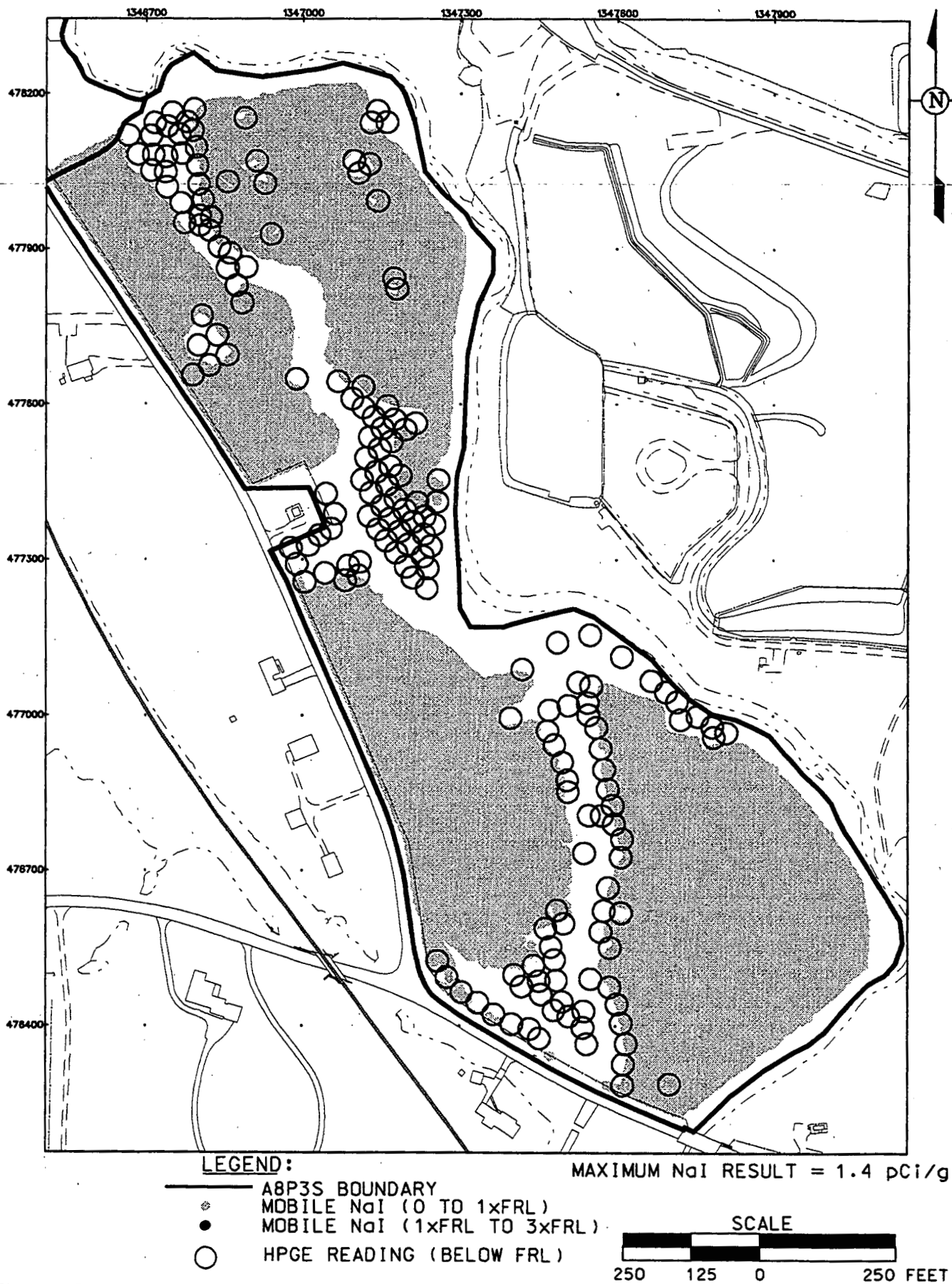


FIGURE 7. A8P3S-SOUTH PRECERTIFICATION RESULTS - THORIUM-232

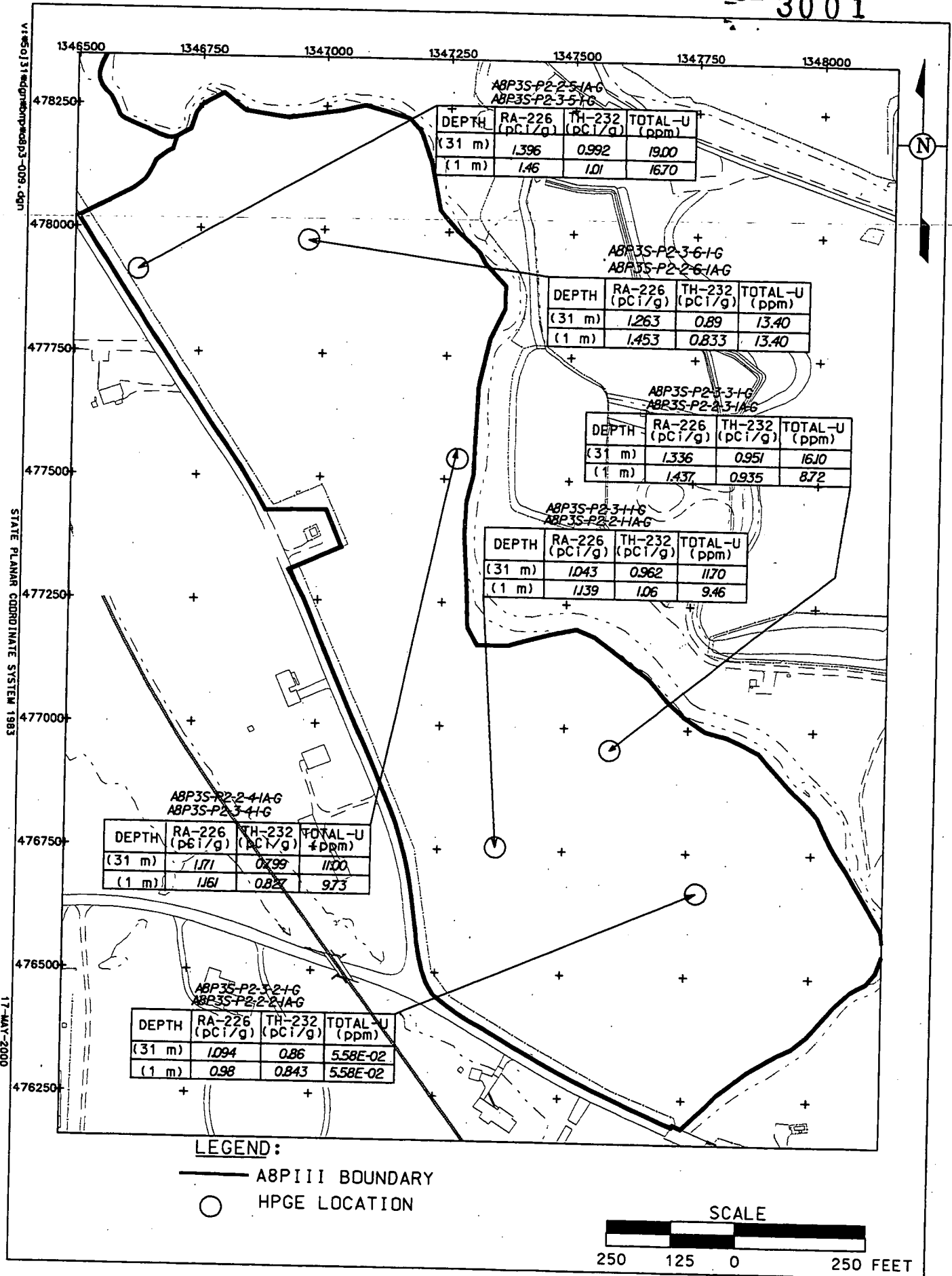
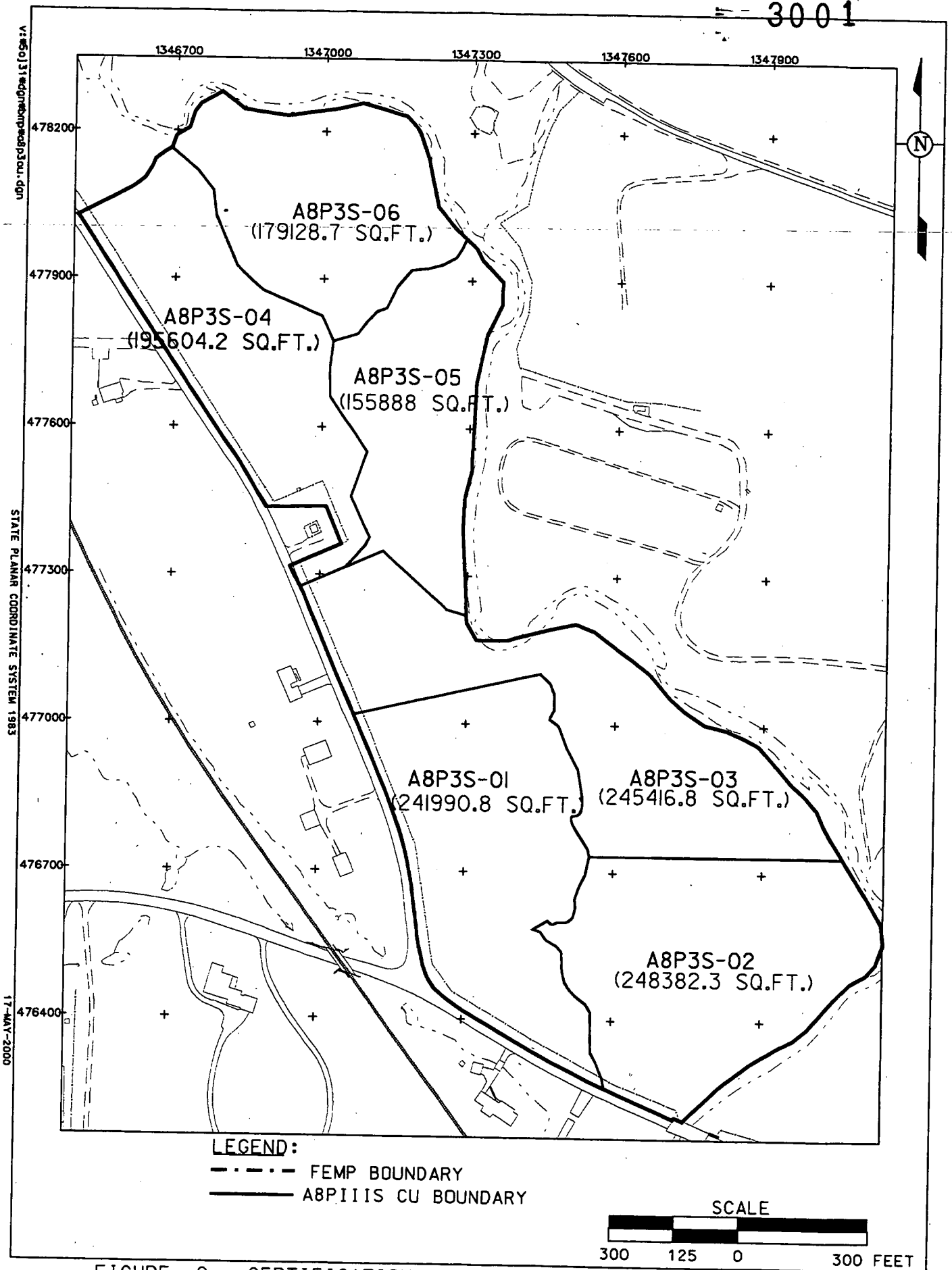


FIGURE 8. A8PIII-SOUTH PRECERTIFICATION PHASE 2 HPGE RESULTS
000030



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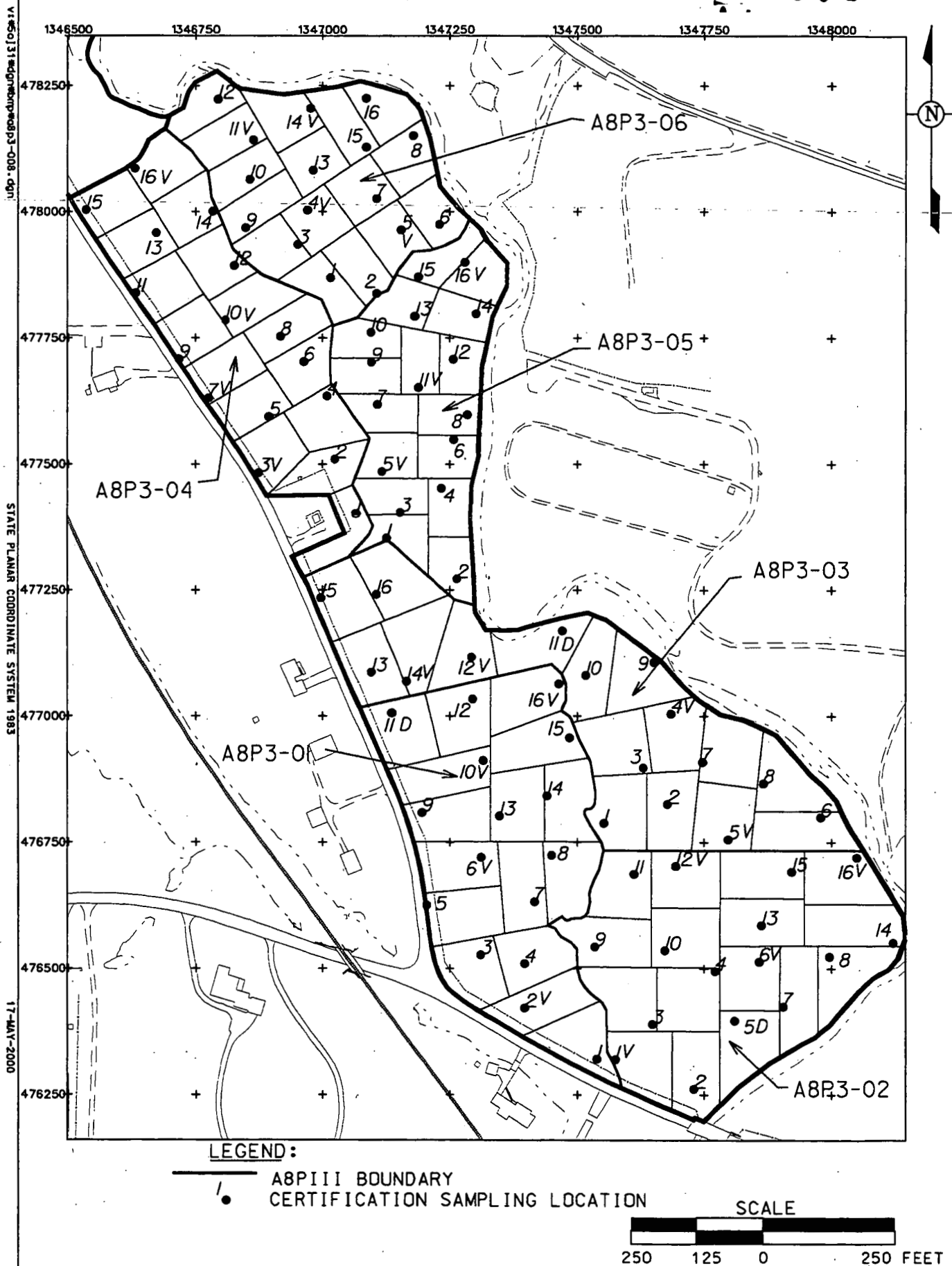


FIGURE 10. A8P3-S CU AND SUB-CU BOUNDARIES AND CERTIFICATION SAMPLING LOCATIONS

000032